N° 21,012 A.D. 1903

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Complete Specification Left, 26th Oct., 1903—Accepted, 26th Nov., 1903

PROVISIONAL SPECIFICATION.

"Improved Construction of Apparatus for Filtering, Humidifying or Disinfecting Air to be Supplied to Buildings."

I, JAMES STOTT, of Vernon Works, Lee Street, Oldham, Lancashire, Gas, Ventilating, and Heating Engineer. do hereby declare the nature of this invention to be as follows:—

The object of this invention is to construct an apparatus for efficiently filtering or humidifying air to be supplied to buildings.

For the purpose of my invention I construct the apparatus of two or more tubular bodies or frames arranged concentrically or otherwise, such bodies or frames being covered with cocoa fibre or other fabric or woven, knitted, perforated, or other material. These tubular bodies are supported by bearings and one or more or all are capable of rotation in the same or opposite directions and at the same or different speeds and such tubular bodies are situate in a trough or troughs which may contain water or a disinfecting liquid.

One end of each tubular body is closed either by the material with which it is covered or by a different material and when the tubular bodies are arranged concentrically the other end between the edge of the outer tube or tubes and the edge of the inner or next tube is closed also, the centre tube only being open at one end and this open end is in connection with a fan or other suction or blowing appliance which sucks or forces the air through the fabric surrounding all the tubular bodies and so purifies, disinfects, humidifies, or otherwise treats the air before being passed to a building. When a liquid is in the trough the tubular bodies are always kept wet so that the air will become humidified or disinfected according to the material placed in the trough and by reason of the end of the outer tube being closed all the air must pass through the fabric surrounding the tubes and so become thoroughly treated.

Dated this 30th day of September 1903.

R. CORE GARDNER,
Chartered Patent Agent.
173, 174, & 175, Fleet Street, London.
Agent for the said:— James Stott.

COMPLETE SPECIFICATION.

"Improved Construction of Apparatus for Filtering Humidifying or Disinfecting Air to be Supplied to Buildings."

I, JAMES STOTT, of Vernon Works, Lee Street, Oldham, Lancashire, Gas, Ventilating, and Heating Engineer, do hereby declare the nature of this inven-

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tion and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

The object of this invention is to construct an apparatus for efficiently filtering or humidifying air to be supplied to buildings.

For the purpose of my invention I construct the apparatus of two or more tubular bodies or frames arranged concentrically or otherwise, such bodies or frames being covered with cocoa fibre or other fabric, or woven, knitted, perforated, or other material. These tubular bodies are supported by bearings and one or more or all are capable of rotation in the same or opposite directions and at the same or different speeds, and such tubular bodies are situate in a trough or troughs which may contain water or a disinfecting liquid.

One end of each tubular body is closed either by the material with which it is covered or by a different material, and when the tubular bodies are arranged concentrically, the other end between the edge of the outer tube or tubes and the edge of the inner or next tube is closed also, the centre tube only being open at one end and this open end is in connection with a fan or other suction or blowing appliance which sucks or forces the air through the fabric surrounding all the tubular bodies and so purifies disinfects, humidfies, or otherwise treats the air before being passed to a building. When a liquid is in the trough the tubular bodies are always kept wet so that the air will become humidified or disinfected according to the material placed in the trough, and by reason of the end of the outer tubes being closed all the air must pass through the fabric surrounding the tubes and so becomes thoroughly treated.

The annexed drawings indicate one example of carrying my invention into effect.

Figure 1 is a longitudinal section of the apparatus.

Figure 2 view of the drums at their open ends.

Figure 3 a section of the drums and trough.

According to this construction two drums 1, 2 are employed, one 2 being within the other.

Each drum is made of a skeleton character from metal or wood rings 3 and bars 4 and these are connected to their axle 5 or bearings 6 by spokes or plates 7, the outer surface of each drum being covered with a medium 8, such as opened meshed cocoa nut fibre, through which air can be sucked or forced.

The inner drum 2 is provided with an axle 5 which rides in bearings 9 of standards 10 secured to a floor or other place and such axle carries the bearings 6 of the outer drum 1 so that both can be revolved in the same or opposite directions according to the arrangement of the driving gear.

The axle 5 carries at one end a gear wheel 11 and the bearing 6 of the drum 1 at that end carries also a gear wheel 12. The gear wheel 12 is in mesh with a pinion 13 secured to an axle 14 on which is arranged a pulley wheel 15 so that said outer drum 1 can be revolved, while the gear wheel 11 is in mesh with a pinion 16 carried by a sleeve 17 which also has a pulley wheel 18 so that the drum 2 can be revolved, and by revolving the pullies in the same direction the drums will be moved in the same direction, or by revolving only one pulley, one drum will remain stationary, or by revolving the pullies in opposite directions, as indicated by the arrows, the drums will be revolved correspondingly.

The drums are arranged over a trough 19 which may contain a disinfecting or other liquid so that as the drums revolve the surfaces 8 are kept constantly wet, and the drum 1 has flange rings 20 which meet the edges of the drum 2 so as to close the ends of the drum 1, and one end of the drum 2 is closed whilst the other or open end is situate next an opening in a wall 21 or casing so that all air which is drawn or forced through the drums 1, 2 by a fan or otherwise must actually pass through both drums, and by revolving the drums the air in passing through the surface 8 of one drum gets so to speak cut up or churned before passing through the next drum so that the air is thoroughly and efficiently treated before passing to the room or building.

The invention can be modified in many ways and the construction altered to suit the position such an apparatus has to occupy in a building and amount of work such an apparatus is to do, and the position, and number of drums can be varied according to circumstances.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

Constructing apparatus for filtering, humidifying, disinfecting, or otherwise treating air to be supplied to buildings, with two or more filtering drums such as 1, 2, arranged and positioned with each other that the air to be treated must be passed through the filtering medium 8 on each drum before being passed to a room or building, one or all of such drums being revolved either in the same or opposite directions to churn the air during its passage through the drums and thoroughly filter, humidify, disinfect, or otherwise treat the air, substantially as set forth.

Dated this 26th day of October 1903.

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STOTT'S Complete Specification.

1 SHEET.

Fig. 2.

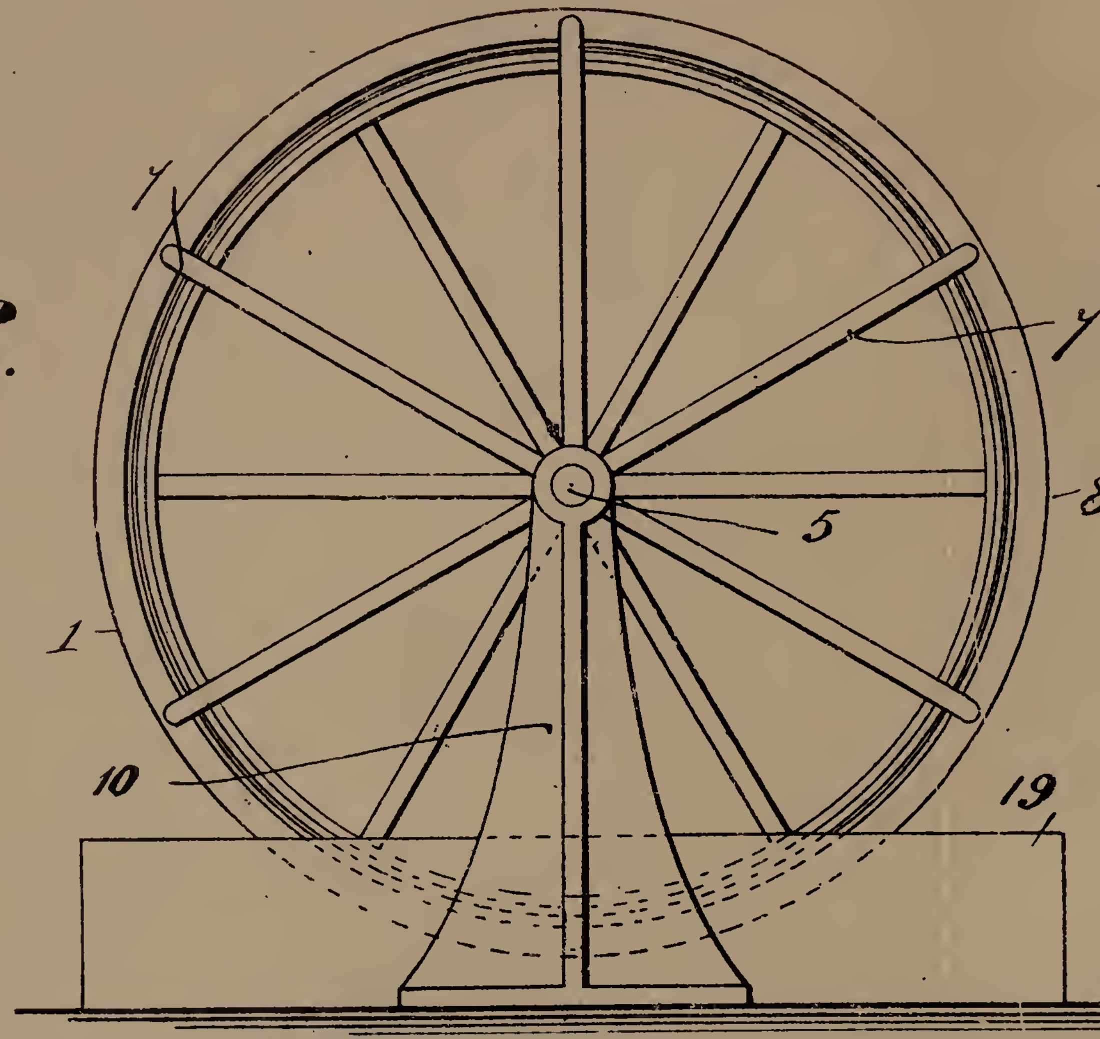


Fig 3

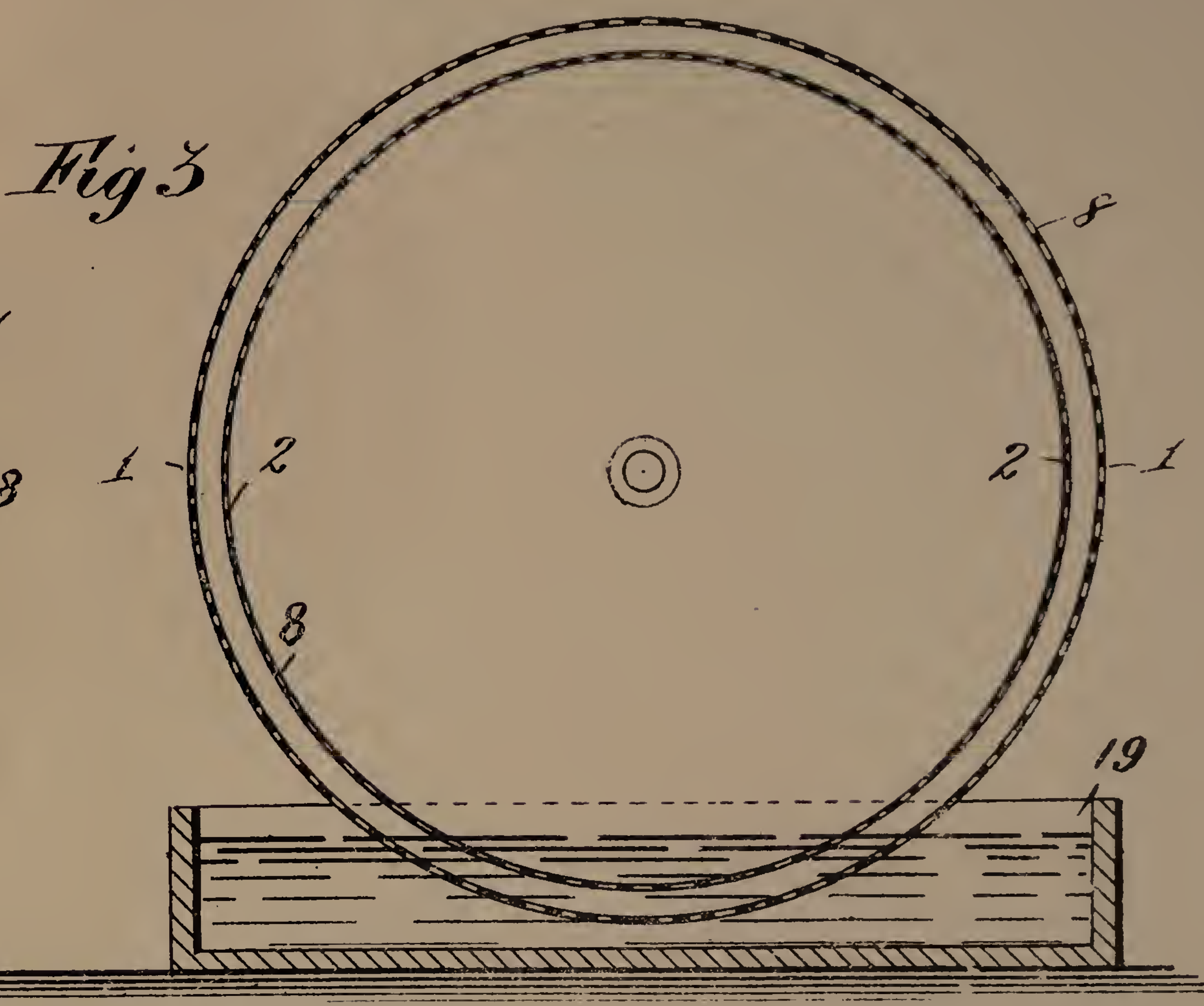
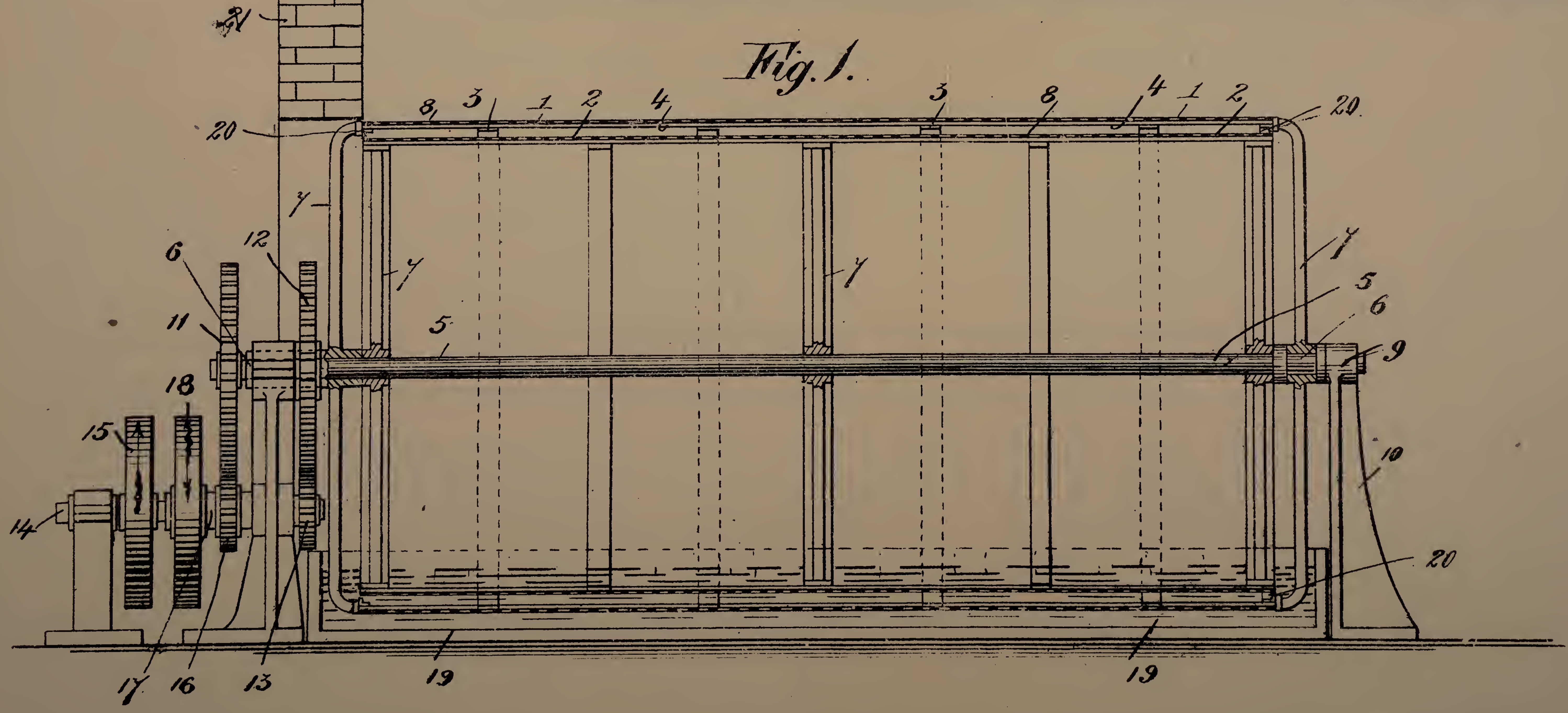


Fig. 1.



[This Drawing is a reproduction of the Original on a reduced scale.]

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